

UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY

-----X
PATRICK MILLER,

Plaintiff,

-against-

LILLY USA, INC. AND ELI LILLY COMPANY,

Defendants.
-----X

CASE NUMBER:

**COMPLAINT
& JURY DEMAND**

Plaintiff, by his attorneys, **DOUGLAS & LONDON, P.C.**, upon information and belief, at all times hereinafter mentioned, allege as follows:

I. PROCEDURAL AND FACTUAL BACKGROUND

A. INTRODUCTION

1. This case involves the prescription drug Axiron, which is manufactured, sold, distributed and promoted by the Defendants Lilly USA, Inc. and Eli Lilly and Company ("Lilly"), as testosterone replacement therapy.

2. Defendants misrepresented that Axiron was a safe and effective treatment for hypogonadism and a condition they referred to as "low testosterone," when in fact the drug causes serious medical problems, including life threatening cardiac events, strokes, and thromboembolic events.

3. Axiron is an exogenous form of the androgen testosterone. It regulates the expression of platelet TXA₂ receptors in humans, which significantly increases platelet aggregation. It causes an increase in hematocrit and estradiol in adult males, resulting in thickened blood, the development of blood clots, and heart damage. These effects, if not monitored and controlled properly, can lead to life threatening cardiac events, strokes and

thromboembolic events, including but not limited to deep vein thrombosis, pulmonary embolism, transient ischemic attacks, ischemic stroke, and numerous types of cardiovascular injuries.

4. Axiron is delivered transdermally in the form of a topical solution. Axiron is applied to the underarms. Axiron is available in a 2% concentration.

5. Defendants failed to adequately warn physicians about the risks associated with Axiron and the monitoring required to ensure their patients' safety.

6. Defendants engaged in an aggressive unbranded "disease awareness" campaign to alert men that they might be suffering from "low T", an abbreviated term for low testosterone.

7. According to the industry-leading Androgen Deficiency in Adult Males ("ADAM") or "Is it Low T?" quiz, the symptoms of "Low T" include being "sad or grumpy," "experiencing deterioration in the ability to play sports," and "falling asleep after dinner." *Available at:* <http://www.isitlowt.com/do-you-have-low-t/low-t-quiz>. Most doctors agree that these symptoms can be caused by an abundance of factors, the most prominent of which is the natural aging process.

8. The FDA has not approved any testosterone replacement therapy drug as a treatment for low testosterone or "Low T". Additionally, low testosterone is not a disease recognized by the medical community. Instead, it is a normal result of the aging process experienced by the majority of males.

9. As a result of this "disease mongering," as termed by Dr. Adriene Fugh-Berman of Georgetown University Medical Center, diagnoses of "Low T" have increased exponentially. This has directly related to Axiron's sales increasing to over \$178.7 million per year.

10. Consumers of Axiron and their physicians relied on the companies' false representations and were misled as to these drugs' safety and efficacy, and as a result have suffered injuries including life-threatening cardiac events, strokes, and thromboembolic events.

B. PARTIES

11. Plaintiff Patrick Miller is and was at all times relevant hereto, a resident and citizen of Hopatcong, New Jersey.

12. Defendant Eli Lilly and Company is a corporation organized and existing under the laws of Indiana with its principal place of business at Lilly Corporate Center, Indianapolis, Indiana 46285.

13. Defendant Lilly USA, Inc. is a limited liability company operating as a wholly owned subsidiary of Defendant Eli Lilly and Company, with its principal place of business at Lilly Corporate Center, Indianapolis, Indiana 46285.

14. Acrux Limited originally developed Axiron. In March of 2010, Acrux and Eli Lilly and Company entered into an exclusive worldwide license agreement for the commercialization of Axiron. On November 14, 2012, Axiron received FDA approval.

15. At all times herein mentioned, Defendants, in interstate commerce and in this judicial district, advertised, promoted, supplied, and sold to distributors and retailers for resale to physicians, hospitals, medical practitioners, and the general public certain pharmaceutical products, including Axiron.

C. JURISDICTION AND VENUE

16. Subject matter of this action arises under 28 U.S.C. § 1332. The parties are citizens of different states and the amount in controversy exceeds \$75,000.00, exclusive of interest and costs.

17. Venue is proper in this judicial district pursuant to 28 U.S.C. § 1391 because, inter alia, a substantial part of the events or omissions giving rise to the Plaintiff's claims occurred in, and because the Defendants transact business in, this district.

D. FACTUAL BACKGROUND

1. General Allegations

18. This action is for damages brought on behalf of the Plaintiff Patrick Miller who was prescribed and supplied with, received and who has applied the prescription drug Axiron, as tested, studied, researched, evaluated, endorsed, designed, formulated, compounded, manufactured, produced, processed, assembled, inspected, distributed, marketed, labeled, promoted, packaged, advertised for sale, prescribed, sold or otherwise placed in the stream of interstate commerce by Defendants. This action seeks, among other relief, general and special damages and equitable relief in order to enable the Plaintiff Patrick Miller to treat and monitor the dangerous, severe and life-threatening side effects caused by these drugs.

19. Defendants' wrongful acts, omissions, and fraudulent misrepresentations caused Plaintiff's injuries and damages.

20. At all times herein mentioned, the Defendants were engaged in the business of, or were successors in interest to, entities engaged in the business of research, licensing, designing, formulating, compounding, testing, manufacturing, producing, processing, assembling, inspecting, distributing, marketing, labeling, promoting, packaging and/or advertising for sale or selling the prescription drug Axiron for the use and application by men, including, but not limited to, Plaintiff Patrick Miller.

21. At all times herein mentioned, Defendants were authorized to do business within the states of New Jersey and Indiana.

22. At all times herein mentioned, the officers and directors of Defendants participated in, authorized, and directed the production and promotion of the aforementioned products when they knew, or with the exercise of reasonable care should have known, of the hazards and dangerous propensities of said products and thereby actively participated in the tortious conduct which resulted in the injuries suffered by Plaintiff herein.

23. Plaintiff files this lawsuit within the applicable limitations period of first suspecting that said drugs caused the appreciable harm sustained by Plaintiff. Plaintiff could not, by the exercise of reasonable diligence, have discovered the wrongful cause of Plaintiff's injuries as their cause was unknown to Plaintiff. Plaintiff did not suspect, nor did Plaintiff have reason to suspect, that Plaintiff had been injured, the cause of the injuries, or the tortious nature of the conduct causing the injuries, until less than the applicable limitations period prior to the filing of this action. Additionally, Plaintiff was prevented from discovering this information sooner because Defendants herein misrepresented and continue to misrepresent to the public and to the medical profession that the drug Axiron is safe and free from serious side effects, and Defendants have fraudulently concealed facts and information that could have led Plaintiff to discover a potential cause of action.

2. Regulatory History and Approved Uses

24. Testosterone is a primary androgenic hormone responsible for normal growth, development of the male sex organs, and maintenance of secondary sex characteristics.

25. The hormone plays a role in sperm production, fat distribution, maintenance of muscle strength and mass, and sex drive.

26. In men, testosterone levels normally begin a gradual decline after the age of thirty.

27. The average testosterone levels for most men range from 300 to 1,000 ng/dl of blood. However, testosterone levels can fluctuate greatly depending on many factors, including sleep, time of day, and medication. Resultantly, many men who may have testosterone levels below 300 ng/dl on one day will have normal testosterone levels the next. Additionally, testosterone levels gradually decline as men age. This decline in serum testosterone levels is a normal process that does not represent a medical condition or disease.

28. The Food and Drug Administration approved Axiron on November 23, 2010. After FDA approval, Axiron has been widely advertised and marketed by Defendants as safe and effective testosterone replacement therapies.

29. Hypogonadism is a specific and recognized condition of the endocrine system, which in men may involve the severely diminished production or nonproduction of testosterone. Primary hypogonadism occurs under circumstances of congenital or acquired pathologic insults to and conditions of the testes in men. Secondary hypogonadism occurs under circumstances of hypogonadotropism, including hypothalamic-pituitary diseases and disorders and other conditions which cause suppression of gonadotropin-releasing hormone (GnRH).

30. A study published in the Journal of the American Medical Association ("JAMA") in August 2013 entitled "Trends in Androgen Prescribing in the United States, 2001 - 2011" indicated that many men who get testosterone prescriptions have no evidence of hypogonadism. For example, one third of men prescribed testosterone had a diagnosis of fatigue, and one quarter of men did not even have their testosterone levels tested before they received a testosterone prescription. A Canadian study showed that only about 6.3% of men who were prescribed testosterone actually met the diagnostic criteria for hypogonadism.

31. At all times material hereto, Defendants knew and understood the FDA-approved indications for clinical use of Axiron products.

3. Direct to Consumer Marketing and Promotion to Physicians for Unbranded/Off-Label Use.

32. Defendants expanded the indications for use by promoting and detailing “Low T” as an acquired form of hypogonadism, and advantaged intentional ambiguity in the Axiron product labeling as a basis for “label expansion” and “off-label” marketing, detailing, and promotion to physicians.

33. The Lilly Defendants have continued to market and promote testosterone replacement therapy for “andropause” and “Low T”.

34. In a press release from March 15, 2010, Lilly announced that they entered into an exclusive worldwide license agreement with Acrux for the future commercialization of Axiron. Lilly stated that Axiron would treat “men suffering from low testosterone.”¹

35. In its announcement of Axiron’s FDA approval on November 23, 2010, Lilly estimated that “up to 13 million men over 45 years of age in the U.S. may have symptoms associated with low testosterone.”²

36. On its Axiron.com website, Lilly states: “Indication: AXIRON is used to treat adult males who have low or no testosterone.”

37. Defendants have coordinated massive advertising campaigns targeted toward men who do not have Hypogonadism, nor have low or no testosterone in conjunction with associated medical conditions. The direct to consumer marketing is designed to convince men that they

¹ <https://investor.lilly.com/releasedetail.cfm?ReleaseID=452131>

² <https://investor.lilly.com/releasedetail.cfm?ReleaseID=532924>

suffered from a non-existent and unrecognized medical condition called “Low T”, a term for low testosterone. Defendants have orchestrated national disease awareness media blitzes that purport to educate male consumers about the signs of low testosterone. The marketing campaigns consist of television advertisements, promotional literature placed in healthcare providers’ offices and distributed to potential Axiron users, and online media including the unbranded website “IsItLowT.com.”

38. The Lilly Defendants’ television advertisements suggest that various symptoms often associated with other conditions may be caused by low testosterone and encourage men to discuss testosterone replacement therapy with their doctors if they experienced any of the “symptoms” of low testosterone. These “symptoms” include less energy, moodiness, low sex drive, and increased body fat—all general symptoms that are often a result of aging, weight gain, or lifestyle, rather than low testosterone.

39. The advertisements disseminated by Lilly suggested that various symptoms often associated with other conditions may be caused by low testosterone and encouraged men to discuss testosterone replacement therapy with their doctors if they experienced any of the “symptoms” of low testosterone. These “symptoms” included “decreased sexual desire (libido),” “erectile dysfunction,” “fatigue and loss of energy,” “depressed mood,” “loss of body hair (decreased need to shave),” “decrease in strength,” and “osteoporosis (decreased bone density).”³ All of these are general symptoms that are often a result of aging, weight gain, or lifestyle, rather than conditions associated with hypogonadism.

40. Since the FDA approved Axiron for a very specific medical condition called Hypogonadism, Defendants have also sought to convince primary care physicians that

³ <http://www.axiron.com/low-testosterone-information.aspx>

Hypogonadism is synonymous with “Low T” and that low testosterone levels are widely under-diagnosed, and that normal and common conditions associated with normal aging could be caused by low testosterone levels.

41. In 2013, Lilly spent approximately 20% of its \$122 million advertising budget for Axiron on detailing physicians about Axiron and “Low T.”

42. While running their disease awareness campaigns, Defendants promote their products as easy to use topical testosterone replacement therapies. For example, Lilly Defendants promote Axiron as the “only underarm low testosterone treatment.” Defendants contrast their product’s at-home topical application with less convenient prescription testosterone injections, which require frequent doctor visits.

43. Defendants convinced millions of men to discuss testosterone replacement therapy with their doctors, and consumers and their physicians relied on Defendants’ promises of safety and ease. Although prescription testosterone replacement therapy has been available for years, millions of men who have never been prescribed testosterone continue to flock to their doctors and pharmacies.

44. Lilly makes Axiron even more enticing to consumers by providing an easily downloadable “Savings Card” which can be used for a free 30-day trial and up to \$75 in monthly savings of Axiron. The solicitation states: “Pay no more than \$25 per month with your FIRST MONTH FREE.” Card activation requires consumers to click three buttons: (1) that you are a resident of the United States or Puerto Rico; (2) that you are 18 years old; and (3) that your prescription is not covered by insurance through the government. Once the Savings Card is downloaded and activated, consumers are directed to show the Savings Card and prescription to

the consumer's pharmacist. The Savings Card solicitation fails to mention any step regarding consultation with a physician and diagnoses of Hypogonadism and associated conditions.

45. Defendants manufactured, sold and promoted these drugs to treat a non-existent medical condition that they call "Low T", a name created for the constellation of symptoms experienced by men as a result of the normal aging process. In essence, Defendants marketed and sold testosterone as a lifestyle drug meant to make men feel younger and increase libido.

46. Defendants successfully created a robust and previously nonexistent market for their drugs. The amount of money invested in testosterone replacement therapy marketing has exploded in the last five years, growing five-fold from \$55 million in 2009 to just under \$283 million in 2013. Lilly led all testosterone manufacturers in advertising costs in 2013, spending \$122 million promoting Axiron, with nearly 70% of that amount, an astounding \$84 million, spent on direct-to-consumer marketing.⁴

47. As observed by Lisa M. Schwartz, M.D., M.S. and Steven Woloshin, M.D., M.S. in their article "Low T as a Template: How to Sell Disease" published in JAMA Internal Medicine 173(15):1460-1462 (August 12/26, 2013) concerning the "Low T" campaigns by the pharmaceutical industry:

Whether the campaign is motivated by a sincere desire to help men or simply by greed, we should recognize it for what it is: a mass, uncontrolled experiment that invites men to expose themselves to the harms of a treatment unlikely to fix problems that may be wholly unrelated to testosterone levels.

We agree with Braun that there is a strong analogy between the marketing of testosterone therapy for men and estrogen therapy for menopausal women. Ignoring the lessons of estrogen therapy is scandalous. Before anyone makes millions of men aware of Low T, they should be required to do a large-scale

⁴ Encuity Research, *Encuity Data Trends Report – Testosterone Replacement Therapy*, available at: <http://www.campbellalliance.com/articles/Encuity%20-%20Data%20Trends%20Report%20-%20TRT%20-%20May%202014.pdf>

randomized trial to demonstrate that testosterone therapy for healthy aging men does more good than harm.

48. Defendants' advertising paid off in a return of \$178.7 million in Axiron sales during the past year (2013). Sales of replacement therapies have more than doubled since 2006, and are expected to triple to \$5 billion by 2017, according to forecasts by Global Industry Analysts. Shannon Pettypiece, *Are Testosterone Drugs the Next Viagra?*, May 10, 2012, Bloomberg Businessweek, *available at*: <http://www.businessweek.com/articles/2012-05-10/are-testosterone-drugs-the-next-viagra>.

49. The Defendants engaged in aggressive promotion to physicians that testosterone replacement therapy could be used as a lifestyle drug to treat conditions such as erectile dysfunction. Sales representatives were instructed to tell physicians that if a patient requested medication for erectile dysfunction the physician should first test the patient's testosterone level to determine if the cause of the erectile dysfunction was "Low T".

50. In a press release published on November 23, 2010, Lilly announced that symptoms associated with "Low T" include "erectile dysfunction and decreased sexual desire, fatigue and loss of energy, mood depression, regression of secondary sexual characteristics and osteoporosis."

51. The marketing program sought to create the image and belief by consumers and physicians that low testosterone was an actual disease or medical condition that affected a large number of men in the United States, and that the use of Axiron is safe for human use as a treatment for "Low T", even though Defendants knew these to be false, and even though Defendants had no reasonable grounds to believe them to be true.

52. At all times material hereto, Defendant's marketing strategy included the use of sales or drug detailing representatives ["reps"] and marketing and brand team personnel who

performed on-line and in-person Axiron product detailing to physicians; and, promotional and detailing to healthcare providers and physicians at medical organization and society meetings and conventions via display booths, sponsored meeting sessions and “satellite” sessions, and sponsored medical speakers.

53. The Defendants’ drug detailing “reps” provided physicians and healthcare providers with information and literature concerning the indications for clinical use of Axiron products, as well as discount and/or rebate coupons to give to patients for the purchase of Axiron.

54. Defendants’ drug “reps” detailed and marketed Axiron to physicians as a product approved and indicated for the treatment of age-related declines in testosterone levels and age-related symptoms.

55. Defendants denominated and characterized age-related declines in testosterone levels and age-related symptoms in men as “Low T,” and used the “Low T” moniker to denote and connote that the presence of age-related declines in testosterone levels and age-related symptoms in men were a form of acquired hypogonadism.

56. The Defendants knew and understood the meaning of the terms “off-label” and “label expansion.”

57. The Defendants knew and understood the FDA regulations pertaining to “off-label” marketing and promotion of an FDA-approved pharmaceutical product.

58. Defendants marketed, promoted, and detailed Axiron for “off-label” use for the purpose of “label expansion,” and detailed and promoted the products to physicians, and advertised the product to consumers and patients, under the rubric that “Low T” was an indication for clinical use of the Axiron products.

59. A manufacturer may not introduce a drug into interstate commerce with an intent that it be used for an “off-label” purpose.

60. A manufacturer misbrands a drug if the labeling, or any of the manufacturer’s promotional and advertising materials, describe an intended use for the drug that has not been approved by the FDA.

61. Promotional materials are misleading if they suggest that a drug is useful in the treatment of a broader range of conditions, or in a broader population of patients, than has been demonstrated by substantial evidence or substantial clinical experience.

62. Promotional materials are misleading if they represent or suggest that a drug is more effective than has been demonstrated by substantial evidence or substantial clinical experience.

63. Promotional materials are misleading if they fail to reveal facts that are material in light of the representations made, or with respect to the consequences that may result from the use of the drug as recommended or suggested by the materials.

64. The FDA did not, and never has, approved Axiron for the treatment of:

- a. age-related declines in testosterone levels in men;
- b. age-related symptoms;
- c. mood disorders, including depression or “grumpiness” or inability to concentrate;
- d. lack of sexual interest or decreased libido;
- e. disorders of erectile function or erectile dysfunction;
- f. loss of muscle mass; or,
- g. bone strength or density abnormalities.

4. Adverse Events and Serious Health Risks Caused by TRT.

65. There have been a number of studies associating testosterone use in men with an increased risk of serious injuries from blood clots and cardiovascular events.

66. Testosterone replacement therapy involves the administration of exogenous testosterone into the male body in an attempt to raise the serum level of total testosterone. This is achieved through the application of a cream, gel or patch directly to the skin for transdermal absorption into the body. It can also be delivered into the body by subcutaneous injection or placement of a time-released pellet containing the drug.

67. The absorption of exogenous testosterone into the male body can cause an increase in serum levels of testosterone, and it also results in an increase in hematocrit⁵ and serum estradiol levels⁶. It can also cause increased platelet aggregation and vasoconstriction.

68. Hematocrit is the proportion of total blood volume that is comprised of red blood cells. Erythrocytosis is an increase in the number of circulating red blood cells especially resulting from a known stimulus (like Testosterone). When a person's hematocrit level is raised through erythrocytosis, the resulting condition is called polycythemia, which simply means an elevated red blood cell count. The range for normal hematocrit levels in adult males is 44%-48%.

69. The administration of exogenous testosterone causes a 7%-10% increase in hematocrit levels in adult males through the process of erythrocytosis.⁷ An increase of hematocrit

⁵ Fernandez-Balsells, M., et al., Adverse Effects of Testosterone Therapy in Adult Men: A Systematic Review and Meta-Analysis. J Clin Endocrinol Metab, June 2010, 95(6):2560–2575.

⁶ Finkelstein, JS, et al., Gonadal Steroids and Body Composition, Strength, and Sexual Function in Men. N Engl J Med 2013;369:1011-22.

⁷ Bachman, E., et al. Testosterone Induces Erythrocytosis via Increased Erythropoietin and Suppressed Hepcidin: Evidence for a New Erythropoietin/Hemoglobin Set Point. J Gerontol A Biol Sci Med Sci., 2013.

that is 7%-10% above normal range is a significant elevation and qualifies as polycythemia. This is a serious medical condition that requires treatment to prevent injury.

70. Elevated hematocrit is an independent risk factor for stroke and it interacts synergistically with elevated blood pressure. In a published study⁸ the cohort for men with a hematocrit level greater than or equal to 51% had a more than doubling of the risk of stroke (RR=2.5), and among males in the cohort who were also hypertensive there was a nine-fold increase in the risk of stroke for those with hematocrit greater than or equal to 51%.

71. Elevated hematocrit is also an independent risk factor for adverse cardiovascular events. Using data from the Framingham Heart Study, researchers documented a strong, graded relationship between hematocrit level and the risk of developing heart failure. In 3,523 Framingham participants, aged 50-65, who were free of a history of heart failure at baseline and were followed prospectively for up to 20 years, individuals with a hematocrit level greater than or equal to 50% had almost double the risk of new-onset heart failure during follow-up, compared with those with a low hematocrit, even after adjustment for conventional risk factors for heart failure.⁹

72. In another study of 680 males conducted over 28 years in Finland, the data showed that men with a hematocrit level greater than or equal to 50% were 2.4 times more likely to die from coronary heart disease than men with hematocrit levels of less than 50%. Even after

⁸ Wannamethee G1, Perry IJ, Shaper AG, Haematocrit, hypertension and risk of stroke. J Intern Med. 1994 Feb;235(2):163-8.

⁹ Coglianese, E., et al., Usefulness of the Blood Hematocrit Level to Predict Development of Heart Failure in a Community. Am J Cardiol. Jan 15, 2012; 109(2): 241–245. Published online Oct 12, 2011

adjusting for established coronary risk factors, the increased risk remained 1.8-fold for the higher hematocrit cohort.¹⁰

73. In yet another large, prospective study¹¹ in Norway, the data show a hazard ratio of 1.25 per 5% rise in hematocrit. In a category-based analysis, a hematocrit level in the upper 20th percentile was found to be associated with a 1.5-fold increased risk of venous thrombosis, and a 2.4-fold increased risk of unprovoked venous thromboembolism compared to men whose hematocrit was in the lower 40th percentile.

74. An increase in the level of hematocrit also causes an increase in the viscosity of the blood. A 10.99% increase of hematocrit produces an increase of 1 unit relative viscosity, which means approximately a 20% increase in blood viscosity for a healthy individual.¹² An increase in blood viscosity is a known risk factor for ischemic heart disease¹³, and it can cause hypertension as blood pressure increase will be 20% or vasodilation will be 4.66% in radius for the physiologic compensation of 20% increased viscosity. Hypertension is a known cause of atherosclerosis, heart failure, and stroke. Testosterone makes blood thick and viscous, which, in turn, can cause numerous health risks and injuries for patients.

75. The major source of estradiol in men comes from the aromatization of testosterone (endogenous and/or exogenous) to estradiol. When men are given testosterone, either by application of an androgen gel or by injection, some of that testosterone is

¹⁰ Kunnas, T, et al., Hematocrit and the risk of coronary heart disease mortality in the TAMRISK study, a 28-year follow-up. *Prev. Med.* Volume 49, Issue 1, July 2009, Pages 45–47.

¹¹ Braekkan SK, Mathiesen EB, et al., Hematocrit and risk of venous thromboembolism in a general population. *The Tromso study. Haematologica.* 2010 Feb; 95(2):270-5.

¹² Cinar, Y., et al., Effect of hematocrit on blood pressure via hyperviscosity. *Am J Hypertens.* 1999 Jul;12(7):739-43.

¹³ Yarnell, JW, et al., Fibrinogen, viscosity, and white blood cell count are major risk factors for ischemic heart disease. *The Caerphilly and Speedwell collaborative heart disease studies. Circulation.* 1991 Mar;83(3):836-44.

converted by the body (aromatized) to estradiol.¹⁴ The increase of estradiol is in direct relation to the amount of the dose of exogenous testosterone delivered; the higher the dose of testosterone, the higher the level of serum estradiol.¹⁵

76. In data gathered from 2,197 men who participated in the Honolulu Aging Study from 1991-1993, and who were followed for thromboembolic and hemorrhagic events until 1998, there was a two-fold excess risk of stroke for men who had serum estradiol levels in the top quintile versus those men whose estradiol levels were lower.¹⁶ This study revealed that estradiol blood levels greater than 34.1 pg/mL resulted in this more than doubling of stroke incidence. As a source of embolism, the authors noted that the prevalence of atrial fibrillation rose significantly from 1.0 to 4.4% from the bottom to the top estradiol quintiles. Atrial fibrillation is a known cause of thrombus formation.

77. If men have an underlying inherited trait which increases their risk of blood clotting, particularly the Factor V Leiden mutation, the Prothrombin gene mutation, high Factor VIII, high homocysteine, or the lupus anticoagulant, then the estradiol can interact with the underlying clotting trait to produce blood clots in the legs, the lungs, the eyes, the brain, and the bones.¹⁷

78. In a study published 2006, blood levels of estradiol were measured in 313 men whose average age was 58. Carotid artery intima-media thickness was measured at baseline and

¹⁴ Glueck, CJ, et al., Thrombotic events after starting exogenous testosterone in men with previously undiagnosed familial thrombophilia. *Trans. Res.* Oct. 2011.

¹⁵ Finkelstein, JS, et al., Gonadal Steroids and Body Composition, Strength, and Sexual Function in Men. *N Engl J Med* 2013;369:1011-22.

¹⁶ Abbott, RD, et al., Serum Estradiol and Risk of Stroke in Elderly Men. *Neurology* 2007, 68:563-568.

¹⁷ Glueck, CJ, et al., Testosterone, thrombophilia, thrombosis. *Blood Coagulation and Fibrinolysis* 2014, 25:00-00.

then three years later. After adjusting for other risk factors, men with higher levels of estradiol suffered a worsening thickening of their carotid artery wall. This led the researchers to conclude, “circulating estradiol is a predictor of progression of carotid artery intima-media thickness in middle-aged men.”¹⁸ These findings of a positive association between serum estradiol levels and intima-media thickening supports the notion that estrogens, besides possibly increasing the risk for thrombosis and thereby cardiovascular events, also have an important impact on atherogenesis in men.

79. In a case control study of men in the Framingham cohort *supra*, serum estradiol levels were significantly increased in subjects with coronary heart disease.¹⁹

80. Estradiol has a greater effect in the male heart through the regulation of gene expression that it does not in female hearts. This effect results in impaired contractile function of the heart in males with elevated levels of serum estradiol.²⁰ Impaired contractile function results in numerous cardiovascular injuries and disease.

81. A study published in 2007 compared blood levels of testosterone and *estradiol* in men suffering acute myocardial infarction (heart attack) with those who had previously suffered a heart attack. Sex hormones were measured in patients presenting with acute heart attack, patients with old heart attack, and patients with normal coronary arteries. The results showed significantly higher levels of *estradiol* in both groups of heart attack patients compared with

¹⁸ Tivesten, A., et al., Circulating Estradiol is an Independent Predictor of Progression of Carotid Artery Intima-Media Thickness in Middle-Aged Men, J CLIN ENDOCRINOL METAB, November 2006, 91 (11): 4433-4437.

¹⁹ Phillips GB, Castelli WP, Abbott RD, et al., Association of Hyperestrogenemia and Coronary Heart Disease in Men in the Framingham Cohort, Am J Med, 1983 74:863-869.

²⁰ Kararigas, G., et al., Transcriptome Characterization of Estrogen-Treated Human Myocardium Identifies Myosin Regulatory Light Chain Interacting Protein as a Sex-Specific Element Influencing Contractile Function, JACC Vol. 59, No. 4, January 24, 2012, 2012:410-7.

those without coronary disease.²¹ In another study, men admitted to the hospital with acute heart attacks whose levels of sex hormones were evaluated. Compared with control patients, *estradiol* levels in these heart attack patients were **180%** higher, while bioavailable testosterone levels were **nearly three times less** than those of control patients.²²

82. High testosterone levels enhance acute myocardial inflammation, adversely affecting myocardial healing and early remodeling, as indicated by increased cardiac rupture, and possibly causing deterioration of cardiac function after MI, and, conversely, estrogen seems to have no significant protective effect in the acute phase after MI.²³

83. Thromboxane A2 (TXA2) is a vasoconstrictor and platelet pro-aggregatory agent that has been implicated in the pathogenesis of cardiovascular disease. Thromboxane A2 has been unequivocally implicated in a range of cardiovascular diseases, owing to its acute and chronic effects in promoting platelet aggregation, vasoconstriction and proliferation. A study published in 1995 demonstrated that testosterone treatment was associated with a significant increase in the maximum platelet aggregation response and this effect may contribute to the thrombogenicity of androgenic steroids like testosterone.²⁴

²¹ Mohamad MJ, Mohammad MA, Karayyem M, Hairi A, Hader AA. Serum levels of sex hormones in men with acute myocardial infarction. *Neuro Endocrinol Lett.* 2007 Apr;28(2):182-6.

²² Pugh PJ, Channer KS, Parry H, Downes T, Jone TH. Bio-available testosterone levels fall acutely following myocardial infarction in men: association with fibrinolytic factors. *Endocr Res.* 2002 Aug;28(3):161-73.

²³ Maria A. Cavasin , Zhen-Yin Tao , Ai-Li Yu , Xiao-Ping Yang; *American Journal of Physiology - Heart and Circulatory Physiology* Published 1 May 2006 **Vol. 290** **no. H2043-H2050** **DOI:** 10.1152/ajpheart.01121.2005

²⁴ Ajayi, A., et al., Testosterone Increases Human Platelet Thromboxane A2 Receptor Density and Aggregation Responses. *Circulation.* 1995; 91: 2742-2747.

84. In 2010, a New England Journal of Medicine Study entitled “Adverse Events Associated with Testosterone Administration” was discontinued after an exceedingly high number of men in the testosterone group suffered adverse events.

85. In November of 2013, a JAMA study was released entitled “Association of Testosterone Therapy with Mortality, Myocardial Infarction, and Stroke in Men with Low Testosterone Levels”, in which a large cohort of men who used testosterone taken from a database of the Veteran’s Administration was compared against a cohort of men who did not use testosterone. The data showed that among the cohort who used testosterone, the testosterone therapy raised the risk of death, heart attack and stroke by about 30%.

86. On January 29, 2014, a study was released in PLOS ONE entitled “Increased Risk of Non-Fatal Myocardial Infarction Following Testosterone Therapy Prescription in Men” which indicated that testosterone use doubled the risk of heart attacks in men over sixty five years old and men younger than sixty five with a comorbid condition. The conclusion of this published study was that the risk of myocardial infarction following initiation of testosterone therapy prescription is substantially increased.

87. In a study published in 2013²⁵, based on a systematic review and meta-analysis of placebo-controlled randomized trials of testosterone therapy among men lasting 12+ weeks reporting cardiovascular-related events, two reviewers independently searched, selected and assessed study quality with differences resolved by consensus. Additionally, two statisticians independently abstracted and analyzed data, and concluded that testosterone therapy increased the risk of a cardiovascular-related event. Their meta-analysis of the published literature also showed that the effect of testosterone therapy varied with source of funding. In trials not funded

²⁵ Xu, L., et al., Testosterone therapy and cardiovascular events among men: a systematic review and meta-analysis of placebo-controlled randomized trials. BMC Medicine 2013, 11:108.

by the pharmaceutical industry the risk of a cardiovascular-related event on testosterone therapy was greater than in pharmaceutical industry funded trials. The study concluded that the existing body of published medical literature demonstrates that in trials not funded by the pharmaceutical industry, exogenous testosterone increased the risk of cardiovascular-related events, with corresponding implications for the use of testosterone therapy.

88. In some patient populations, testosterone use can increase the incidence of adverse events and death by over 500%.

5. Inadequate Warnings and Labeling

89. Defendants' marketing strategy has been to aggressively market and sell their products by misleading potential users and their physicians about the prevalence and symptoms of low testosterone and by failing to protect users from serious dangers that Defendants knew or should have known to result from use of its products.

90. Defendants successfully marketed Axiron by undertaking "disease awareness" marketing campaigns. These campaigns sought to create a consumer perception that low testosterone is prevalent among U.S. men and that symptoms previously associated with other physical and mental conditions, such as aging, stress, depression, and lethargy were actually attributable to "Low T."

91. Defendants' advertising programs sought to create the image and belief by consumers that the use of Axiron was a safe method for alleviating their symptoms, had few side effects and would not interfere with their daily lives, even though Defendants knew or should have known these to be false, and even though the Defendants had no reasonable grounds to believe them to be true.

92. Defendants promoted and marketed testosterone replacement therapy to physicians as a lifestyle drug that could treat a variety of symptoms caused by the normal aging process in males, including: erectile dysfunction; loss of libido; loss of athleticism; loss of muscle mass; fatigue; and mood swings. Defendants overstated the benefits of testosterone as a treatment for lifestyle changes associated with the aging process despite the fact that the drug was never FDA approved for these uses.

93. Defendants purposefully downplayed, understated and outright ignored the health hazards and risks associated with using Axiron. Defendants deceived potential Axiron users and their physicians by relaying positive information through the press, including testimonials from retired professional athletes, and manipulating the definition of hypogonadism and statistics of its occurrence in men to suggest widespread disease prevalence, while downplaying known adverse and serious health effects.

94. Defendants concealed material relevant information from potential Axiron users, and their physicians, and minimized user and prescriber concern regarding the safety of Axiron, including but not limited to its known propensity to drastically increase hematocrit and estradiol in users.

95. In particular, in the warnings Defendants give in their commercials, online and print advertisements, Defendants fail to mention any potential risk of cardiac event, stroke, pulmonary embolism or other dangerous side effects related to blood clotting and falsely represent that Defendants adequately tested Axiron for all likely side effects. The Defendants also fail to warn and instruct regarding the importance of adequate monitoring of hematocrit and estradiol levels.

96. The prescribing information and medication guides for Axiron contained within the package materials do not warn against stroke, pulmonary embolism, transient ischemic attack, cardiovascular disease, myocardial infarction, coronary heart failure, or any thromboembolic event not related to polycythemia.

97. The medication guide contained within the package materials instructs patients to tell their healthcare provider the following before initiating use of Axiron:

- have breast cancer
- have or might have prostate cancer
- have urinary problems due to an enlarged prostate
- have heart problems
- have kidney or liver problems
- have problems breathing while you sleep (sleep apnea)
- have any other medical conditions

However, the prescribing information and medication guide contained within the package materials fail to instruct patients to tell their healthcare provider if they have an underlying inherited trait which increases their risk of blood clotting, particularly the Factor V Leiden mutation, the Prothrombin gene mutation, high Factor VIII, high homocysteine, or the lupus anticoagulant. They also fail to instruct patients or physicians to be aware of the presence of comorbid conditions or pre-existing heart disease, which has been proven to double the risk in men under the age of 65 who use testosterone therapy.

98. The prescribing information and medication guide contained within the package materials do warn that the use of the product may result in increased red blood cell count, but do not instruct physicians or patients that it can increase a red blood cell count to the point that it

more than doubles the risk for stroke, pulmonary embolism, ischemic heart disease, coronary heart failure, and myocardial infarction. The warning in regard to red blood cell count does not warn patients and their physicians that hematocrit levels can rise by as much as 10% above normal range, nor does it warn of the serious and life threatening risks that are associated with a red blood cell count that exceeds 50%, including the fact that individuals with a hematocrit greater than or equal to 51% have a doubling of the risk of stroke, new-onset heart failure, and coronary heart disease.

99. The prescribing information and medication guide contained within the package materials do instruct physicians to re-evaluate their patient's hematocrit 3 to 6 months after starting treatment, but they fail to warn patients and their physicians that the product can cause dangerous increases in hematocrit much more rapidly, and also fail to instruct physicians to monitor their patient's hematocrit more frequently.

100. The prescribing information and medication guide contained within the package materials fail to state that testosterone replacement therapy should not be administered to men who have an underlying inherited trait which increases their risk of blood clotting, particularly the Factor V Leiden mutation, the Prothrombin gene mutation, high Factor VIII, high homocysteine, or the lupus anticoagulant because the increase in serum estradiol caused by the drug can interact with the underlying clotting trait to produce blood clots in the legs, the lungs, the eyes, the brain, and the bones. They also fail to instruct physicians to screen all patients for underlying clotting traits before prescribing testosterone replacement therapy.

101. The prescribing information and medication guide contained within the package materials do warn that use of the product may result in risk of blood clots in the veins, but they

specifically limit this warning to “blood clots in the legs” and only warn against blood clots in the legs that form as a result of increased red blood cell count (polycythemia). There is no warning for blood clots in the veins other than “blood clots in the legs”, nor is there any warning of blood clots resulting from causes other than polycythemia. Also, there are no warnings that blood clots in veins as a consequence of polycythemia could result in pulmonary embolism, or other injuries secondary to the formation of deep vein thrombosis in the legs or other parts of the body.

102. The prescribing information and medication guide contained within the package materials fail to warn that use of the product may result in elevated levels of estradiol. They do not instruct physicians to monitor estradiol levels, nor do they provide any guidance to physicians or patients regarding the significant health risks associated with elevated levels of serum estradiol in men, including the fact that there was a two-fold excess risk of stroke for men who had serum estradiol levels in the top quintile versus those men whose estradiol levels were lower, and that estradiol blood levels greater than 34.1 pg/mL resulted in more than doubling of stroke incidence in men. There is also no warning that elevated serum estradiol levels resulting from use of the product can cause impairment of contractility of the heart.

103. The prescribing information and medication guide contained within the package materials do not warn that use of the product may result in the formation of deep vein thrombosis, pulmonary embolism, stroke, infarction, coronary heart failure, cardiovascular disease, or myocardial infarction caused by elevated levels of estradiol.

104. The prescribing information and medication guide contained within the package materials do not offer any warning of the very serious health risks for men over the age of 65 who use testosterone replacement therapy. There is no mention of the fact that there is a doubling

of the risk of heart attacks in men over the age of 65 who use testosterone replacement therapy, despite the fact that the data supporting this finding has been available for years. Instead, the label only states that the manufacturer lacks any information regarding the safety or efficacy of testosterone therapy for men over the age of 65. This absence of a warning fails to adequately advise and instruct patients and their physicians of the very serious health risks caused by the use of testosterone in this patient population.

105. In November of 2013, Rebecca Vigen, Colin I. O'Donnell, Anna E. Barón, Gary K. Grunwald, et al. published an article in the Journal of the American Medical Association entitled Association of Testosterone Therapy with Mortality, Myocardial Infarction, and Stroke in Men with Low Testosterone Levels ["Vigen Paper"].

106. The Vigen Paper concluded that: "Use of testosterone therapy in this cohort of veterans with significant medical comorbidities was associated with increased risk of mortality, MI, or ischemic stroke." In fact, testosterone therapy increased the risk of death, heart attack, and stroke by approximately 30%.

107. On January 29, 2014, William D. Finkle, Sander Greenland, Gregory K. Ridgeway John L. Adams, et al. published an article in PLOS ONE entitled Increased Risk of Non-Fatal Myocardial Infarction Following Testosterone Therapy Prescription in Men ["Finkle Paper"].

108. The Finkle Paper demonstrated an increased risk of heart attack in men over age 65 years, and in men younger than 65 years with a prior history of heart disease.

109. The increased incidence of heart attack and stroke was foreseeable at the time of the product launch of Axiron.

110. On June 19, 2014, and in response to post-market reports of venous blood clots unrelated to polycythemia in testosterone users, the United States Food & Drug Administration (FDA) announced that it was requiring manufacturers of testosterone to include a general warning in the drug labeling of all approved testosterone products about the risk of venous thromboembolism (VTE), including deep vein thrombosis (DVT) and pulmonary embolism (PE).

FDA adding general warning to testosterone products about potential for venous blood clots

[06/19/2014] The U.S. Food and Drug Administration (FDA) is requiring manufacturers to include a general warning in the drug labeling of all approved testosterone products about the risk of blood clots in the veins. Blood clots in the veins, also known as venous thromboembolism (VTE), include deep vein thrombosis (DVT) and pulmonary embolism (PE). The risk of venous blood clots is already included in the labeling of testosterone products as a possible consequence of polycythemia, an abnormal increase in the number of red blood cells that sometimes occurs with testosterone treatment. Because there have been postmarket reports of venous blood clots unrelated to polycythemia, FDA is requiring a change to drug labeling of all testosterone products to provide a more general warning regarding venous blood clots and to ensure this risk is described consistently in the labeling of all approved testosterone products.

Because these clots occur in the veins, this new warning is not related to FDA's ongoing evaluation of the possible risk of stroke, heart attack, and death in patients taking testosterone products. We are currently evaluating the potential risk of these cardiovascular events, which are related to blood clots in the arteries and are described in the [Drug Safety Communication posted on January 31, 2014](#).

Testosterone products are FDA-approved for use in men who lack or have low testosterone levels in conjunction with an associated medical condition. Examples of these conditions include failure of the testicles to produce testosterone for reasons such as genetic problems or chemotherapy.

111. As a result of this mandate by the FDA, on June 19, 2014, the Defendants updated the prescribing information to provide the general warning required by FDA regarding DVT and PE, and also updated the medication guide for Axiron to include the significant risk of PE as follows: "Blood clots in the legs or lungs. Signs and symptoms of a blood clot in your leg can include leg pain, swelling, or redness. Signs and symptoms of a blood clot in your lungs can include difficulty breathing or chest pain." However, the prescribing information and the medication guide contained within the package materials still lacks any warning about the risks

of elevated estradiol levels, the need to screen for underlying clotting traits, and they contains no warnings for strokes, or for cardiovascular injuries.

112. The marketing and promotion of the product to patients and physicians overstated its benefits by creating the impression that it was a safe and effective treatment for a variety of aging-related conditions and symptoms, for which it was not FDA approved. This is misleading and fails to adequately warn physicians and patients about the numerous, life-threatening health risks associated with use of the drug.

113. As a result of Defendants' advertising and marketing, and representations about its product, men in the United States pervasively seek out prescriptions for Axiron. If Plaintiff and his physician had known the risks and dangers associated with Axiron, the physician would not have prescribed nor would Plaintiff would have taken Axiron and consequently would not have been subject to its serious side effects; and/or, Plaintiffs' physicians would have adequately monitored Plaintiffs' hematocrit and estradiol levels, and, as a result, Plaintiffs' injuries would have not otherwise have occurred

6. Case Specific Facts

114. Plaintiff Patrick Miller was 54 years old when was diagnosed with a myocardial infarction.

115. Plaintiff Patrick Miller sought specific testing and treatment for "Low T" based upon the representations and medical information provided to him by the Lilly Defendants through direct-to-consumer educational and information "Low T" awareness campaigns propagated by the Lilly Defendants.

116. Defendants sought to raise the awareness of physicians, including Plaintiff's physician, with respect to a condition denominated as "Low T," and to educate physicians about "Low T" and its treatment.

117. Defendants had a duty to warn prescribing physicians about the risks of testosterone use, including the risks of cardiovascular events and cerebrovascular accident.

118. Plaintiff's physician would not have prescribed Axiron to his patient, Patrick Miller, had he been advised of and warned of the risks of cardiovascular accident caused by or increased with respect to the risk of harm by Axiron.

119. In or about, September 2012, Plaintiff commenced treatment with Axiron.

120. Plaintiff was hospitalized from October 2, 2012 through October 5, 2012. At this time, he was diagnosed with a myocardial infarction.

121. Plaintiff's injuries were directly and proximately caused by or increased in the risk of harm by his use of testosterone by the mechanism of injury as described above in Section I. D. 4.

122. Because of his use of Axiron, Plaintiff suffered a cardiovascular event (myocardial infarction) and continues to suffer from:

- a. loss of life's pleasures;
- b. fear and fright;
- c. embarrassment and humiliation;
- d. economic loss;
- e. requirement for medical monitoring relating to his injuries, including further cardiovascular accidents;
- f. loss of earnings; and,

g. past, present and future medical expenses.

123. Prior to October 2, 2012, Plaintiff Patrick Miller was unaware of any connection between his use of Axiron and his cardiovascular event.

124. Plaintiff incurred significant medical expenses as a result of the treatment he underwent to treat his injury, will incur future medical expenses as his injury is permanent, lost wages as a result of being unable to work, his ability to labor and earn money has been impaired, he is at increased risk for future health problems and disability, and he suffered physical pain and mental anguish.

125. Defendants materially and deceptively misrepresented and mischaracterized the definition of hypogonadism to the Plaintiff and his physician.

126. There was no warning to Plaintiff or his physician that the product presented a risk of a cardiovascular event.

127. Had Plaintiff Patrick Miller and his physicians known the true risks associated with the use of testosterone medications, including Axiron, he would not have consumed the Axiron, and/or would have been adequately monitored for its side effects, and as a result, would not have incurred the injuries or damages he did as a result of his use of Axiron.

II. CAUSES OF ACTION

Count One – Strict Products Liability – Failure to Warn

128. Plaintiff adopts by reference each and every paragraph of the Complaint applicable to all counts of this Complaint, and each and every count of this Complaint as if fully copied and set forth at length herein.

129. The Defendants are liable under the theory of product liability as set forth in §§ 402A and 402B of the Restatement of Torts 2d.

130. The Axiron manufactured and/or supplied by Defendants was defective due to inadequate warnings or instructions because Defendants knew or should have known that the product created significant risks of serious bodily harm to consumers, and they failed to adequately warn consumers and/or their health care providers of such risks.

131. Defendants failed to adequately warn consumers and/or their health care providers that Axiron could cause heart attacks, strokes, pulmonary embolism, cardiovascular events and blood clots.

132. Defendants failed to adequately warn consumers and/or their health care providers that while a patient was taking Axiron it was necessary to frequently monitor hematocrit and estradiol levels to prevent heart attacks, strokes, pulmonary embolisms, cardiovascular events and blood clots.

133. The Axiron manufactured and/or supplied by Defendants was defective due to inadequate post-marketing warnings or instructions because, after Defendants knew or should have known of the risk of serious bodily harm from the use of Axiron, Defendants failed to provide an adequate warning to consumers and/or their health care providers of the product, knowing the product could cause serious injury.

134. As a direct and proximate result of Plaintiff's reasonably anticipated use of Axiron as manufactured, designed, sold, supplied, marketed and/or introduced into the stream of commerce by Defendants, Plaintiff suffered serious injury, harm, damages, economic and non-economic loss and will continue to suffer such harm, damages and losses in the future.

Count Two – Strict Products Liability – Failure to Warn (N.J.S.A. 2A: 58C-1 et seq.)

135. Plaintiff adopts by reference each and every paragraph of the Complaint applicable to all counts of this Complaint, and each and every count of this Complaint as if fully copied and set forth at length herein.

136. Defendants have engaged in the business of selling, distributing, supplying, manufacturing, marketing, and/or promoting Axiron, and through that conduct has knowingly and intentionally placed Axiron into the stream of commerce with full knowledge that it reaches consumers such as Plaintiff who ingested it.

137. Defendants did in fact sell, distribute, supply, manufacture, and/or promote Axiron to Plaintiff and to their prescribing physicians. Additionally, Defendants expected the Axiron that it was selling, distributing, supplying, manufacturing, and/or promoting to reach – and Axiron did in fact reach – prescribing physicians and consumers, including Plaintiff and his prescribing physicians, without any substantial change in the condition of the product from when it was initially distributed by Defendant.

138. At all times herein mentioned, the aforesaid product was defective and unsafe in manufacture such that it was unreasonably dangerous to the user, and was so at the time it was distributed by Defendants and ingested by Plaintiff. The defective condition of Axiron was due in part to the fact that it was not accompanied by proper warnings regarding the possible side effect of developing diabetes as a result of its use.

139. This defect caused serious injury to Plaintiff, who used Axiron in its intended and foreseeable manner.

140. At all times herein mentioned, Defendant had a duty to properly design, manufacture, compound, test, inspect, package, label, distribute, market, examine, maintain

supply, provide proper warnings, and take such steps to assure that the product did not cause users to suffer from unreasonable and dangerous side effects.

141. Defendant so negligently and recklessly labeled, distributed, and promoted the aforesaid product that it was dangerous and unsafe for the use and purpose for which it was intended.

142. Defendant negligently and recklessly failed to warn of the nature and scope of the side effects associated with Axiron.

143. Defendant was aware of the probable consequences of the aforesaid conduct. Despite the fact that Defendant knew or should have known that Axiron caused serious injuries, it failed to exercise reasonable care to warn of the dangerous side effects from Axiron use, even though the side effects were known or reasonably scientifically knowable at the time of distribution. Defendant willfully and deliberately failed to avoid the consequences associated with its failure to warn, and in doing so, Defendant acted with a conscious disregard for the safety of Plaintiff.

144. Plaintiffs could not have discovered any defect in the subject product through the exercise of reasonable care.

145. Defendant, as the manufacturer and/or distributor of the subject product, is held to the level of knowledge of an expert in the field.

146. Plaintiffs reasonably relied upon the skill, superior knowledge, and judgment of Defendants.

147. Had Defendants properly disclosed the risks associated with Axiron, Plaintiff would have avoided the risk of myocardial infarction by not using Axiron.

148. As a direct and proximate result of the carelessness, negligence, recklessness, and gross negligence of Defendants alleged herein, and in such other ways to be later shown, the subject product caused Plaintiff to sustain injuries as herein alleged. Plaintiff has endured pain and suffering, has suffered economic loss, including incurring significant expenses for medical care and treatment, and will continue to incur such expenses in the future. Plaintiff seeks actual and punitive damages from Defendant as alleged herein.

Count Three – Strict Products Liability – Defective Design (N.J.S.A. 2A: 58C-1 et seq.)

149. Plaintiff adopts by reference each and every paragraph of the Complaint applicable to all counts of this Complaint, and each and every count of this Complaint as if fully copied and set forth at length herein.

150. Defendants are the researchers, developers, manufacturers, distributors, marketers, promoters, suppliers and sellers of Axiron, which is defective and unreasonably dangerous to consumers.

151. Axiron is defective in its design or formulation in that it is not reasonably fit, suitable, or safe for its intended and indicated purpose and/or its foreseeable risks exceed the benefits associated with its design and formulation. Axiron is defective in design or formation because it lacks efficacy and/or poses a greater likelihood of injury than similar drugs on the market, and is more dangerous than ordinary consumers can reasonably foresee.

152. The defective condition of Axiron renders it unreasonably dangerous, and Axiron was in this defective condition at the time it left the hands of the Defendant. Axiron was expected to and did reach consumers, including Plaintiff(s), without substantial change in the condition in which it was designed, manufactured, labeled, sold, distributed, marketed, promoted, supplied and otherwise released into the stream of commerce.

153. Plaintiff was unaware of the significant hazards and defects in Axiron. Axiron was unreasonably dangerous in that it was more dangerous than would be reasonably contemplated by the ordinary user. During the period that Plaintiff was taking Axiron, the medication was being utilized in the manner that was intended by Defendants. At the time Plaintiff received and consumed Axiron, it was represented to be safe and free from latent defects, for use as indicated on the label.

154. Defendants are strictly liable to Plaintiff for designing, manufacturing, and placing into the stream of commerce a product which was unreasonably dangerous for its reasonably foreseeable uses at the time it left the control of Defendants because of the design defects.

155. Defendants knew or should have known of the danger associated with the use of Axiron, as well as the defective nature of Axiron, but have continued to design, manufacture, sell, distribute, market, promote and/or supply Axiron so as to maximize sales and profits at the expense of the public health safety, in conscious disregard of the foreseeable harm caused by Axiron.

156. As a direct and proximate result of the design defect and Defendants' misconduct set forth herein, Plaintiff has suffered and will continue to suffer serious and permanent physical and emotional injuries, have expended and will continue to expend large sums of money for medical care and treatment, have suffered and will continue to suffer economic loss, and have otherwise been physically, emotionally and economically injured.

**Count Four – Strict Products Liability – Manufacturing Defect (N.J.S.A. 2A: 58C-1
et seq.)**

157. Plaintiff adopts by reference each and every paragraph of the Complaint applicable to all counts of this Complaint, and each and every count of this Complaint as if fully copied and set forth at length herein.

158. At all times material to this action, Defendants were engaged in the business of designing, developing, manufacturing, testing, packaging, promoting, marketing, distributing, labeling, and/or selling Axiron.

159. At all times material to this action, Axiron was expected to reach, and did reach, consumers in the State of New Jersey and throughout the United States, including Plaintiff herein without substantial change in the condition in which it was sold.

160. At all times material to this action, Axiron was designed, developed, manufactured, tested, packaged, promoted, marketed, distributed, labeled, and/or sold by Defendants in a defective and unreasonably dangerous condition at the time it was placed in the stream of commerce in ways which include, but are not limited to, one or more of the following particulars:

- a. When placed in the stream of commerce, Axiron contained manufacturing defects which rendered the product unreasonably dangerous;
- b. The subject product's manufacturing defects occurred while the product was in the possession and control of Defendants;
- c. The subject product was not made in accordance with Defendants' specifications or performance standards;
- d. The subject product's manufacturing defects existed before it left the control of Defendants;

161. As a direct and proximate result of the design defect and Defendants' misconduct set forth herein, Plaintiff has suffered and will continue to suffer serious and permanent physical and emotional injuries, has expended and will continue to expend large sums of money for medical care and treatment, has suffered and will continue to suffer economic loss, and has otherwise been physically, emotionally and economically injured.

Count Five – Negligence

162. Plaintiff adopts by reference each and every paragraph of the Complaint applicable to all counts of this Complaint, and each and every count of this Complaint as if fully copied and set forth at length herein.

163. At all times herein mentioned, Defendants had a duty to properly manufacture, design, formulate, compound, test, produce, process, assemble, inspect, research, distribute, market, label, package, distribute, prepare for use, sell, prescribe and adequately warn of the risks and dangers of Axiron.

164. At all times material hereto, Defendants had actual knowledge, or in the alternative, should have known through the exercise of reasonable and prudent care, of the hazards and dangers of Axiron to cause, or increase the harm of among other severe injuries, myocardial infarction, cerebrovascular accident, deep vein thrombosis and its sequelae, pulmonary embolism, and sudden cardiovascular death.

165. Defendants had a duty of care when it undertook to provide comprehensive medical information to consumers and patients concerning "Low T" as a medical diagnostic entity; and, to educate and inform consumers and patients about "Low T;" and, to provide consumers and patients with the means for self-diagnostic screening and in-home testing for "Low T."

166. Defendants had a duty to disclose to physicians and healthcare providers the causal relationship or association of Axiron to heart attack, stroke, deep vein thrombosis and its sequelae, pulmonary embolism, and sudden cardiac death.

167. Defendant's duty of care owed to consumers and patients included providing accurate, true, and correct information concerning:

- hypogonadism and its diagnostic criteria;
- the FDA-approved indications for the clinical use of the Axiron product;
- the clinical safety and effectiveness profile of Axiron; and,
- appropriate, complete, and accurate warnings concerning the adverse effects of Axiron, including heart attack, stroke, pulmonary embolism, deep vein thrombosis and its sequelae, and sudden cardiac death.

168. At all times herein mentioned, Defendants breaches its duty of care by negligently and carelessly manufactured, designed, formulated, distributed, compounded, produced, processed, assembled, inspected, distributed, marketed, labeled, packaged, prepared for use and sold Axiron and failed to adequately test and warn of the risks and dangers of Axiron as described herein.

169. The Defendants negligently and carelessly disregarded the applicable regulations and industry standards regarding the prohibition against off-label marketing, misbranding and label expansion, and as a result millions of men, including the Plaintiff, were prescribed Axiron unnecessarily, and therefore needlessly exposed to serious health risks for which there were no or inadequate warnings.

170. At all times material hereto, Defendants sought to mislead and misinform physicians concerning the FDA-approved uses for Axiron, including Plaintiff's prescribing

physician. Specifically, the FDA had not approved Axiron or any other testosterone-containing preparation for the treatment of “Low T.”

171. At all times material hereto, Defendants recklessly, intentionally, and knowingly detailed and promoted the testosterone-containing product Axiron with the intent that men be prescribed testosterone therapy by physicians for “off-label” clinical indications.

172. Despite the fact that Defendants knew or should have known that Axiron caused unreasonable, dangerous side effects, Defendants continued to market Axiron to consumers including Plaintiff, when there were safer alternative methods and/or no need to treat conditions such as loss of energy, libido erectile dysfunction, depression, loss of muscle mass and other conditions that Axiron marketing materials claim were caused by “Low T.”

173. At all times material hereto, Defendants misbranded the Axiron products on an on-going and continuous basis, and failed to warn physicians and patients that Axiron was not approved for the treatment of “Low T” or age-related declines in testosterone or age-related symptoms in men.

174. Defendants failed to disclose to physicians, consumers, and patients the known cardiovascular and cerebrovascular risks causally associated with Axiron use.

175. As marketed, detailed, and promoted to physicians, including Plaintiff’s prescribing physician, Defendants failed to warn that Axiron caused, or increased the risk of harm of, cardiovascular and cerebrovascular injuries, including myocardial infarction and cerebrovascular accident, pulmonary embolism, deep vein thrombosis and its sequelae, and sudden cardiac death.

176. Defendants knew or should have known that consumers such as Plaintiff would foreseeably suffer injury as a result of Defendants' failure to exercise ordinary care as described above.

177. Defendants' negligence was a proximate cause of the Plaintiff's injuries, harm and economic loss which Plaintiff suffered, and will continue to suffer, as described and prayed for herein.

Count Six – Breach of Implied Warranty

178. Plaintiff adopts by reference each and every paragraph of the Complaint applicable to all counts of this Complaint, and each and every count of this Complaint as if fully copied and set forth at length herein.

179. Prior to the time that the aforementioned products were used by the Plaintiff, Defendants impliedly warranted to Plaintiff and Plaintiff's agents and physicians that Axiron was of merchantable quality and safe and fit for the use for which it was intended.

180. Specifically, the Defendants warranted to Plaintiff that its product was intended to treat a condition called "Low T" and that it was safe and fit for that use, but the Defendants failed to disclose that "Low T" is not a recognized medical condition and that its testosterone product was not FDA approved to treat any such condition.

181. Plaintiff was and is unskilled in the research, design and manufacture of medical drugs, including Axiron, and reasonably relied entirely on the skill, judgment and implied warranty of the Defendants in using Axiron. As a result, the Plaintiff used Defendants' product as it was warranted to be intended.

182. Axiron was neither safe for its intended use nor of merchantable quality, as warranted by Defendants, in that Axiron has dangerous propensities when used as intended and will cause severe injuries to users.

183. As a result of the abovementioned breach of implied warranties by Defendants, Plaintiff suffered injuries and damages as alleged herein.

Count Seven - Breach of Express Warranty

184. Plaintiff adopts by reference each and every paragraph of the Complaint applicable to all counts of this Complaint, and each and every count of this Complaint as if fully copied and set forth at length herein.

185. At all times mentioned, Defendants expressly represented and warranted to Plaintiff and Plaintiff's agents and physicians, by and through statements made by Defendants or their authorized agents or sales representatives, orally and in publications, package inserts and other written materials intended for physicians, medical patients and the general public, that Axiron was FDA approved to treat a condition called "Low T", and that it is safe, effective, fit and proper for their intended use. Plaintiff purchased Axiron relying upon these warranties.

186. In utilizing Axiron, Plaintiff relied on the skill, judgment, representations, and foregoing express warranties of Defendants. These warranties and representations were false in that there is no disease or medical condition called "Low T" that is recognized by any medical community, peer-reviewed journal, or learned treatise, and that Axiron is unsafe and unfit for its purported intended uses.

187. As a result of the abovementioned breach of express warranties by Defendants, Plaintiff suffered injuries and damages as alleged herein.

Count Eight - Fraud

188. Plaintiff adopts by reference each and every paragraph of the Complaint applicable to all counts of this Complaint, and each and every count of this Complaint as if fully copied and set forth at length herein.

189. Through a sophisticated and well-orchestrated marketing campaign, the Defendant set out to invent a fictitious disease/medical condition that it called “Low T”, and then purposely deceived the Plaintiff and his physicians into believing that this was a real disease/medical condition and that Plaintiff suffered from it. Defendant did this through marketing a set of generic and common conditions in middle-aged men, and representing that these conditions were “symptoms” of “Low T”. Those commonly occurring conditions were listed in the “Is It Low T Quiz”, and included:

- Being tired after dinner
- Diminished ability to play sports
- Lack of energy
- Being sad
- Being grumpy
- Decreased libido

Each of these purported “symptoms” of “Low T” are normal and common conditions for men over the age of 40, and especially common in men over the age of 50.

190. Defendants, from the time they first tested, studied, researched, evaluated, endorsed, manufactured, marketed and distributed Axiron, and up to the present, knew that their product could cause an increase in hematocrit in patients to a level that more than doubles their risk for stroke, heart attack, and clot formation that could result in pulmonary embolism, and as result of published, peer-reviewed medical literature knew that the use of its product could result

in a dramatic increase in serum estradiol levels, yet the Defendant willfully deceived Plaintiff by concealing from them, Plaintiff's physicians and the general public, the true facts concerning Axiron, which the Defendants had a duty to disclose.

191. At all times herein mentioned, Defendants conducted a sales and marketing campaign to promote the sale of Axiron and willfully deceive Plaintiff, Plaintiff's physicians and the general public as to the benefits, health risks and consequences of using Axiron. Defendants knew of the foregoing, that Axiron is not safe, fit and effective for human consumption, that using Axiron is hazardous to health, and that Axiron has a serious propensity to cause serious injuries to its users, including but not limited to the injuries Plaintiff suffered.

192. Defendants knowingly, falsely, deceptively, and inaccurately designated the physiologic decrease in men's testosterone levels and the age-related symptoms men experience with aging as a form of acquired hypogonadism with the intent to deceive physicians into prescribing Axiron for "off-label" indications for clinical use; and, to engage in "label expansion" of the Axiron products; and, to drive increasing consumer and patient demand for Axiron prescriptions.

193. Defendants knowingly, falsely, deceptively, and inaccurately misstated the clinical effectiveness profile of Axiron to physicians, to include statements concerning the effectiveness of treatment of the age-related signs and symptoms included on the "Interactive ADAM Questionnaire." There was no double-blind, placebo-controlled, randomized, sufficiently powered, and independent study or clinical investigation or clinical evidence to support this use of Axiron, and no approval by the FDA to warrant promotion of these indications for clinical use.

194. Defendants knowingly, falsely, deceptively, and inaccurately designated and represented that the physiologic decline in men's testosterone levels and the age-related symptoms men experience with advancing age, as a form of "acquired hypogonadism" with the intent to confuse and deceive consumers and patients, and to foster the belief by consumers and patients, including Plaintiff, that they harbored a "disease" or pathologic medical condition that was appropriately treated with the Axiron products.

195. Defendants concealed and suppressed the true facts concerning Axiron, and the actual disease for which it has been FDA approved to treat (Hypogonadism), with the intent to defraud Plaintiff, in that Defendants knew that Plaintiff physicians would not prescribe Axiron, and Plaintiff would not have used Axiron, if they were aware of the true facts concerning its dangers.

196. Defendants undertook to inform and educate consumers about the diagnostic hallmarks of "Low T," and engaged in and encouraged mass consumer screening for "Low T" via patient-directed questionnaires, quizzes, and information, as part of a mass marketing effort to encourage patients to seek treatment for "Low T," while having actual knowledge that Axiron was not indicated for the treatment of "Low T," nor were they proven to be clinically safe and effective for treating "Low T" or age-related declines in testosterone levels or age-related symptoms in men.

197. Defendants knew, understood, and intended that consumers would rely upon the comprehensive medical information that it provided to consumers and patients through its multi-platform marketing, promotional, educational, and awareness campaigns concerning the Axiron products and their indications for clinical use; and further knew that consumers and patients

would make treatment choices and exercise treatment options about their use of the Axiron products in reliance upon this information.

198. Defendants deceived physicians by explicitly or implicitly claiming that the treatment of “Low T” was an FDA-approved clinical indication for use of Axiron, when in fact it was an “off-label” indication for clinical use.

199. Consumers, including Plaintiff, required, and should have been provided with, truthful, accurate, and correct information concerning the FDA-approved indications for the clinical use for Axiron and the clinical safety and effectiveness profiles for Axiron, including information concerning the “off-label” use of Axiron products.

200. Plaintiff relied on the fraudulent and deceptive representations made by the Defendant to his detriment. Specifically, Plaintiff relied on representations that “Low T” was an actual disease that required medical treatment and use of prescription testosterone, that Axiron was FDA approved to treat a condition called “Low T”, and that the Defendant’s testosterone drug was a safe and effective treatment for his “Low T”.

201. Plaintiff would not have sought or continued treatment for “Low T” or administered Axiron had he been provided with adequate, true, accurate, and correct information by Defendants about the risks of cardiovascular events and cerebrovascular accident causally associated with the use of Axiron, and the fact that “Low T” was not an FDA-approved indication for clinical use of Axiron.

202. Plaintiff would not have sought or continued treatment for “Low T,” or administered Axiron, had he been provided with adequate, true, accurate, and correct information by Defendants, including information that there were no proven clinical profiles of safety or effectiveness for the use of Axiron to treat “Low T.”

203. During the detailing, marketing, and promotion to physicians, neither Defendants nor the co-promoters who were detailing Axiron on behalf of Defendants warned physicians, including Plaintiff's prescribing physician, that Axiron caused or increased the risk of harm of cerebrovascular accident and neurologic injuries.

204. Defendants, through its national direct-to-consumer multi-platform outreach campaigns and medical educational formats, materials, and programs, undertook to inform the consuming public and patients, including Plaintiff, about a "disease" Defendants denominated and characterized as "Low T."

205. These materials did reach Plaintiff, and he relied upon these materials in reaching his decision to purchase, use, and continue the use of Axiron throughout his course of testosterone therapy.

206. Plaintiff would not have administered Axiron to himself had the educational and informational materials made available to him by Defendants, and upon which he relied to his detriment, informed him about the risks of cardiovascular events and cerebrovascular accident with product use.

207. As a result of Defendants' fraudulent and deceitful conduct, Plaintiff suffered injuries and damages as alleged herein.

Count Nine – Negligent Misrepresentation

208. Plaintiff adopts by reference each and every paragraph of the Complaint applicable to all counts of this Complaint, and each and every count of this Complaint as if fully copied and set forth at length herein.

209. From the time Axiron was first tested, studied, researched, evaluated, endorsed, manufactured, marketed and distributed, and up to the present, Defendants made

misrepresentations to Plaintiff, Plaintiff's physicians and the general public, including but not limited to the misrepresentation that "Low T" was an actual disease/medical condition for which medical treatment was indicated, and that Axiron was safe, fit, effective, and FDA approved for human consumption to treat "Low T". At all times mentioned, Defendants conducted sales and marketing campaigns to promote the sale of Axiron and willfully deceive Plaintiff, Plaintiff's physicians and the general public as to the health risks and consequences of the use of the abovementioned product.

210. The Defendants made the foregoing representation without any reasonable ground for believing them to be true. These representations were made directly by Defendants, by sales representatives and other authorized agents of Defendants, and in publications and other written materials directed to physicians, medical patients and the public, with the intention of inducing reliance and the prescription, purchase and use of the subject product.

211. The representations by the Defendants were in fact false, in that Axiron is not safe, fit and effective for human consumption, using Axiron is hazardous to health, and Axiron has a serious propensity to cause serious injuries to users, including but not limited to the injuries suffered by Plaintiff.

212. The foregoing representations by Defendants, and each of them, were made with the intention of inducing reliance and the prescription, purchase and use of Axiron.

213. Plaintiff relied on the misrepresentations made by the Defendant to his detriment. Specifically, Plaintiff relied on representations that "Low T" was an actual disease that required medical treatment and use of prescription testosterone, that Axiron was FDA approved to treat a condition called "Low T", and that the Defendants' testosterone drugs were a safe and effective treatment for his "Low T".

214. In reliance of the misrepresentations by the Defendants, and each of them, Plaintiff was induced to purchase and use Axiron. If Plaintiff had known of the true facts and the facts concealed by the Defendants, Plaintiff would not have used Axiron. The reliance of Plaintiff upon Defendants' misrepresentations was justified because such misrepresentations were made and conducted by individuals and entities that were in a position to know the true facts.

215. As a result of the foregoing negligent misrepresentations by Defendants, Plaintiff suffered injuries and damages as alleged herein.

Count Ten Design Defect

216. Defendant participated in the manufacture, sale and marketing of an exogenous testosterone drug that was FDA approved to treat a specific medical condition called Hypogonadism, which is defined as a condition in which a male produces no or very low testosterone in conjunction with an associated medical condition, such as failure of the testicles to produce testosterone for reasons such as genetic problems or chemotherapy.

217. The Defendant manufactured, sold and promoted the drug to treat a non-existent medical condition that it called "Low T", which was a name it created for the constellation of symptoms experienced by men as a result of the normal aging process. In essence, the Defendant marketed and sold testosterone as a lifestyle drug meant to make men feel younger and increase libido.

218. Defendant manufactured, sold, and promoted this drug which contained a defective condition because the design was defective and unsafe in that it caused serious injuries and death as the result of the formation of blood clots and adverse cardiovascular events,

including but not limited to deep vein thrombosis, pulmonary embolism, stroke, ischemic injuries, infarctions, coronary heart failure, and cardiovascular disease.

219. This design defect made the drug unreasonably dangerous, yet the Defendant knowingly introduced the drug into the market.

220. The drug as manufactured by the Defendant remained unchanged and was in the same condition at the time of the injury hereafter alleged.

221. As a direct and proximate cause of Defendant's manufacture, sale and promotion of the defectively designed drug, Plaintiff sustained permanent injury.

Punitive Damages Allegations

222. Plaintiff adopts by reference each and every paragraph of the Complaint applicable to all counts of this Complaint, and each and every count of this Complaint as if fully copied and set forth at length herein.

223. The acts, conduct, and omissions of Defendants, as alleged throughout this Complaint were willful and malicious. Defendants committed these acts with a conscious disregard for the rights, health and safety of Plaintiff and other Axiron users and for the primary purpose of increasing Defendants' profits from the sale and distribution of Axiron. Defendants' outrageous and unconscionable conduct warrants an award of exemplary and punitive damages against Defendants in an amount appropriate to punish and make an example of Defendants.

224. Prior to the manufacturing, sale, and distribution of Axiron, Defendants knew that said medication was in a defective condition as previously described herein and knew that those who were prescribed the medication would experience and did experience severe physical, mental, and emotional injuries. Further, Defendants, through their officers, directors, managers, and agents, knew that the medication presented a substantial and unreasonable risk of harm to the

public, including Plaintiff and as such, Defendants unreasonably subjected consumers of said drugs to risk of injury or death from using Axiron.

225. Despite its knowledge, Defendants, acting through its officers, directors and managing agents for the purpose of enhancing Defendants' profits, knowingly and deliberately failed to remedy the known defects in Axiron and failed to warn the public, including Plaintiff, of the extreme risk of injury occasioned by said defects inherent in Axiron. Defendants and their agents, officers, and directors intentionally proceeded with the manufacturing, sale, and distribution and marketing of Axiron knowing these actions would expose persons to serious danger in order to advance Defendants' pecuniary interest and monetary profits.

226. Defendants' conduct was despicable and so contemptible that it would be looked down upon and despised by ordinary decent people, and was carried on by Defendants with willful and conscious disregard for the safety of Plaintiff, entitling Plaintiff to exemplary damages.

PRAYER

WHEREFORE, Plaintiffs pray for judgment against the Defendant, as follows, as appropriate to each cause of action alleged and as appropriate to the particular standing of Plaintiff:

- A. General damages in an amount that will conform to proof at time of trial;
- B. Special damages in an amount within the jurisdiction of this Court and according to proof at the time of trial;
- C. Loss of earnings and impaired earning capacity according to proof at the time of trial;
- D. Medical expenses, past and future, according to proof at the time of trial;

- E. For past and future mental and emotional distress, according to proof;
- F. Damages for loss of care, comfort, society, and companionship in an amount within the jurisdiction of this Court and according to proof;
- G. For punitive or exemplary damages according to proof;
- H. Restitution, disgorgement of profits, and other equitable relief;
- I. Injunctive relief;
- J. Attorney's fees;
- K. For costs of suit incurred herein;
- L. For pre-judgment interest as provided by law; and
- M. For such other and further relief as the Court may deem just and proper.

DEMAND FOR JURY TRIAL

Plaintiff hereby demands a jury trial on all claims so triable in this action.

Dated: September 29, 2014

Respectfully submitted,

/s/ Michael A. London

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